

disengaging zone. The disengaging zone has a first catalyst discharge line and a second catalyst discharge line. The second catalyst discharge line is in fluid communication with a regenerator. The regenerator has an inlet for injecting a regeneration medium and an outlet line for discharging at least partially regenerated catalyst. The first catalyst discharge line and the outlet line of the regenerator are in fluid communication with the first end of the riser reactor.--

--The reactor system further comprises the step of introducing a molecular sieve catalyst and oxygenates into the first end of the riser reactor. Olefin product and molecular sieve catalyst having carbonaceous deposits is withdrawn from the second end of the riser reactor into a disengaging zone to disengage the olefin product from the molecular sieve catalyst having carbonaceous deposits. Olefin product is withdrawn from the disengaging zone. A first portion of the catalyst having carbonaceous deposits is withdrawn through the first catalyst discharge line to the first end of the riser reactor. A second portion of the catalyst having carbonaceous deposits is withdrawn through a second catalyst discharge line. The second portion of the catalyst having carbonaceous deposits is regenerated to form an at least partially regenerated catalyst. At least partially regenerated catalyst is discharged from the regenerator to the first end of the reactor.--

--In one embodiment, the disengaging zone comprises at least one cyclone separator--

--In another embodiment, the cyclone separator has a catalyst discharge end and a product discharge end in fluid communication with a product outlet line, wherein the olefin product is withdrawn through the product outlet line. In still another embodiment, the disengaging zone is in fluid communication with a stripping zone.--

--In one embodiment, the second catalyst discharge line is in fluid communication with the stripping zone.--

--In another embodiment, the stripping zone is located within the disengaging zone.--

--In still another embodiment, the catalyst cooler is in fluid communication with the regenerator.--

--In yet another embodiment, the second end of the reactor is greater in diameter than the first end of the riser reactor. In one embodiment, one end of the riser reactor selected from the group comprising the first end and the second end is larger in diameter from an end opposite the one end.--